

REMARKS

Summary

Claims 1, 2, 9, 10, 36 and 70 were pending and all of the claims were rejected in the present Office action. The Applicant has carefully considered the references and the arguments set forth by the Examiner and respectfully traverses the rejections. The arguments set forth below reiterate those made in the reply after final Office action, and have been supplemented so as to respond to the Examiner's arguments as set forth in the Advisory action.

Claim Rejections

35 U.S.C. § 103 (a)

In the rejection of Claims 1, 2, 9, 36 and 70, the Examiner reiterates the rejection based on Schaeffer (US 4,315,171; "Schaeffer") in view of Field, II (US 4,244,696; "Field"). The Applicant respectfully traverses this rejection on the basis that the Examiner has not made out a *prima facie* case of obviousness. The traversal of the Office action of November 29, 2004, set forth in a response filed on February 28, 2005, is maintained and incorporated herein by reference.

As noted in the previous response, it is not necessary for the Applicant to set forth all of the reasons that exist for the traversal of a rejection. However, the Applicant wishes to supplement the previous response to provide a further reason for withdrawal of the rejection and the allowance of the claims.

The Examiner asserts that Shaeffer shows "all of the limitations of the claimed invention in Figure 22 except for the different pitch. Field II shows the rotor and stator pitches being different for the purposes of reducing cogging torque, thereby providing smooth operation."

Referring to Fig. 22 of Shaeffer, element 86 "comprises an entire stator assembly...The stator segment 86 contains three groups of two poles each,

the poles in each pole group being wound to provide opposite polarity on the two poles when energized. The pole groups are staggered....” (Shaeffer, col. 13, lines 31-38).

Adjacent poles are seen to be wired such that the coils of the two poles in a pole group are energized simultaneously, and are of opposite polarity. The angular pitch of the poles in a pole group and the angular pitch of the permanent magnets in the rotor are the same. To the extent that the Examiner appears to suggest that that the angular pitch of the poles in the pole group taught by Shaeffer be set to be different from that of that of the rotor, the effect of adjacent poles being energized with different polarities is, *inter alia*, that the net torque is reduced from that taught by Shaeffer. This is evident from the limiting situation which would obtain if the angular pitch of the poles were twice that of the rotor where the net torque on the rotor would be zero and no rotation at all would occur.

The secondary reference is cited as a modification of the primary reference, and a motivation to combine the references must be provided by the Examiner. Such a modification must result in a beneficial improvement to the primary reference Shaeffer in order to be considered a motivation to combine. But, the modification of the primary reference, Shaeffer, in view of the Examiner’s asserted teachings of Field, would result in poorer performance of the device taught by Shaeffer, as explained above. Hence, the Examiner has not provided a motivation to make the change to Schaeffer, and a *prima facie* case of obviousness has therefore not been made out. The Applicant respectfully submits that any suggestion to make such a modification has been derived from the Applicant’s teachings. Claim 36 recites subject matter similar to Claim 1 and is allowable for the same reasons.

The Examiner further argues that the modification suggested by the Examiner is merely a design trade off since “gold (more expensive but a better electrical conductor than copper) instead of copper is used for winding.

(Advisory action, para 11.) Whatever the merits of the Examiner's argument, and the Applicant does not accept that the argument has merit in this instance, a motivation to combine the references, modifying the first reference by an aspect of a second reference, must be shown, before any argument relating to design choice can be made. That is, if a *prima facie* case is not made out, then the Applicant is entitled to a patent.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schaeffer in view of Field and further in view of Tamae et al. (US 4,979,423; "Tamae"). The Applicant respectfully reasserts the traverse presented in the previous response and the extension thereof made herein.

Claims 1, 2, 9, 10 and 70 were rejected under 35 U.S.C. §103 (a) as unpatentable over Schaeffer in view of Wavre (US 5,642,013; "Wavre"). The Applicant respectfully reasserts the traverse presented in the previous response and the extension thereof made above.

Rebuttal to the Examiner's Response to Arguments

In item 1 of the response, the Examiner again cites a number of references as purporting to teach one or more aspects of the present claims. However, except for the references actually applied in the rejection in the appropriate section of the Office action, the Applicant cannot discern the specific teachings in each of the references which the Examiner considers directly relevant. Any such assertions should have been made in the support to the formal rejection to afford the Applicant the opportunity to provide a detailed traverse thereof. To support the assertions of relevance to the present application, specific combinations of the references need to be made, and the specific portions of the references identified, as well as a motivation for the suggested combination in each instance.

The Examiner cites *In re McLaughlin*, 433 F.2d 1392, 170 USPQ 209 (CCPA 1971) for the proposition that a reconstruction may be based on hindsight reasoning, so long as it takes into account only knowledge which

was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned [only] from the applicant's disclosure. The Applicant recognizes that this is the authority recommended to an Examiner in the MPEP to support a rejection of an applicant's arguments regarding a rejection based on obviousness.

However, in the case of *In re Sang-Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), the court set forth the standards the Patent and Trademark Office ("PTO") must adhere to when rejecting a claim under 35 U.S.C. § 103. Specifically, when rejecting a claim for obviousness, the PTO must articulate the reasons for its decision. *Id.* at 1342. In particular, the PTO must show that there is a teaching, motivation, or suggestion of a motivation to combine references relied on as evidence of obviousness. *Id.* at 1343. When the examiner relies on what is asserted to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. "The factual inquiry whether to combine references must be thorough and searching.'... It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with."; *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) ("To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.").

Moreover, the Examiner has not produced evidence or analysis that the specific motor that might result from the combination of the references cited would have reduced cogging torque, relying merely on an unsupported statement. The aspect of Field cited by the Examiner appears in the Background section of the reference and, as such, is not an enabled teaching.

To the extent that *In re McLaughlin* may not have been specifically overturned by the Federal Circuit, the Applicant respectfully submits that

McLaughlin has not been cited at the Federal Circuit in over 15 years, and that the BPAI has begun to take note of the requirements of *In re Sang-Su Lee*.

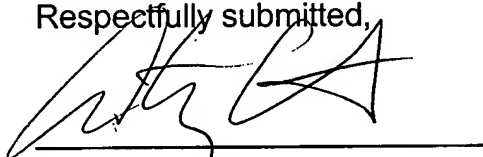
As such, the Applicant reiterates the traverse of the Examiner's reasoning as set forth in the response provided to the Office action of November 29, 2004 and incorporates the same by reference herein.

Conclusion

Claims 1, 2, 9-10, 36, and 70 are pending. For at least the reasons given above, the Applicant respectfully submits that Claims are allowable.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'AP Curtis', is written over a horizontal line.

Anthony P. Curtis, Ph.D.
Registration No. 46,193
Agent for Applicant

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200